

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2004/000391

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## A. CLASSIFICATION OF SUBJECT MATTER

**IPC7: G01S 5/02, G05D 1/02**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**IPC7: E21F, G01S, G05D**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

**SE, DK, FI, NO classes as above**

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**EPO-INTERNAL, WPI, PAJ**

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1243939 A1 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.), 25 Sept 2002 (25.09.2002), abstract --	1-11
A	WO 0169041 A1 (SANDVIK TAMROCK OY), 20 Sept 2001 (20.09.2001), figure 4, abstract --	1-11
A	WO 0107976 A1 (CMTE DEVELOPMENT LTD.), 1 February 2001 (01.02.2001), abstract --	1-11
A	WO 03012470 A2 (SIEMENS AKTIENGESELLSCHAFT), 13 February 2003 (13.02.2003), abstract --	1-11

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y"	document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

26 October 2004

Date of mailing of the international search report

29 -10- 2004

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02054813 A1 (EKAHAU OY), 11 July 2002 (11.07.2002), abstract --	1-11
A	US 6226572 B1 (M.TOJIMA ET AL), 1 May 2001 (01.05.2001), abstract -- -----	1-11

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

01/10/2004

International application No.

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EP	1243939	A1	25/09/2002	NONE		
WO	0169041	A1	20/09/2001	AU	4659901 A	24/09/2001
				CA	2403124 A	20/09/2001
				EP	1266124 A	18/12/2002
				FI	110806 B	00/00/0000
				FI	20000628 A	18/09/2001
				JP	2003527514 T	16/09/2003
				US	6616244 B	09/09/2003
				US	20030052529 A	20/03/2003
				ZA	200207057 A	02/05/2003
WO	0107976	A1	01/02/2001	AP	200202400 D	00/00/0000
				AU	5954400 A	13/02/2001
				AU	PQ181699 D	00/00/0000
				BR	0013057 A	23/07/2002
				CA	2380048 A	01/02/2001
				CN	1367886 T	04/09/2002
				EP	1204905 A	15/05/2002
				NZ	516833 A	31/05/2002
				PL	356260 A	28/06/2004
				US	6694233 B	17/02/2004
				ZA	200200569 A	22/04/2003
WO	03012470	A2	13/02/2003	US	20030028323 A	06/02/2003
WO	02054813	A1	11/07/2002	CN	1483297 T	17/03/2004
				EP	1354491 A	22/10/2003
				FI	111901 B	00/00/0000
				FI	20002891 A	30/06/2002
				JP	2004517572 T	10/06/2004
				US	20040072577 A	15/04/2004
US	6226572	B1	01/05/2001	AU	5879098 A	08/09/1998
				JP	10222227 A	21/08/1998
				WO	9836337 A	20/08/1998

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